

[54] **PUSH-IN FASTENER**

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[56] **References Cited**

U.S. PATENT DOCUMENTS

3,483,787 12/1964 Saunders .
3,494,244 2/1970 Wayland .
3,722,037 3/1973 Jaeger 411/908
3,810,279 5/1974 Swick et al. .
4,240,183 12/1980 Sumimoto et al. 24/30.5 P
4,381,633 5/1983 MacLeod .
4,396,329 8/1983 Wollar .

4,728,238 3/1988 Chisholm et al. .

FOREIGN PATENT DOCUMENTS

64768 5/1982 European Pat. Off. 411/60

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[57] **ABSTRACT**

A one piece plastic push-in fastener for insertion into a preformed opening in a workpiece comprises an axially elongated rigid shank having a head end and a free end. A series of flexible wing members extend laterally from the shank to a radial extent greater than the cross-section of the opening. The wing members flex toward the head to permit push-in installation of the fastener in the opening. However, abutment stops are located between adjacent wing members to prevent their flexure toward the free end. Thus, the fastener has low resistance to installation and high resistance to removal.

2 Claims, 2 Drawing Sheets

